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Text input system

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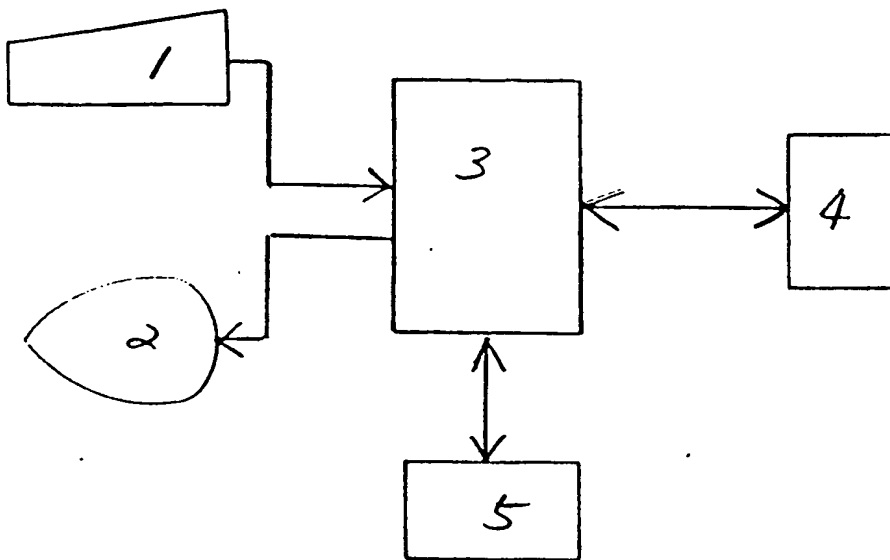
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HF HKJ HKK
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Figure 1

A block diagram of the invention system



1: Input system

2: Output system

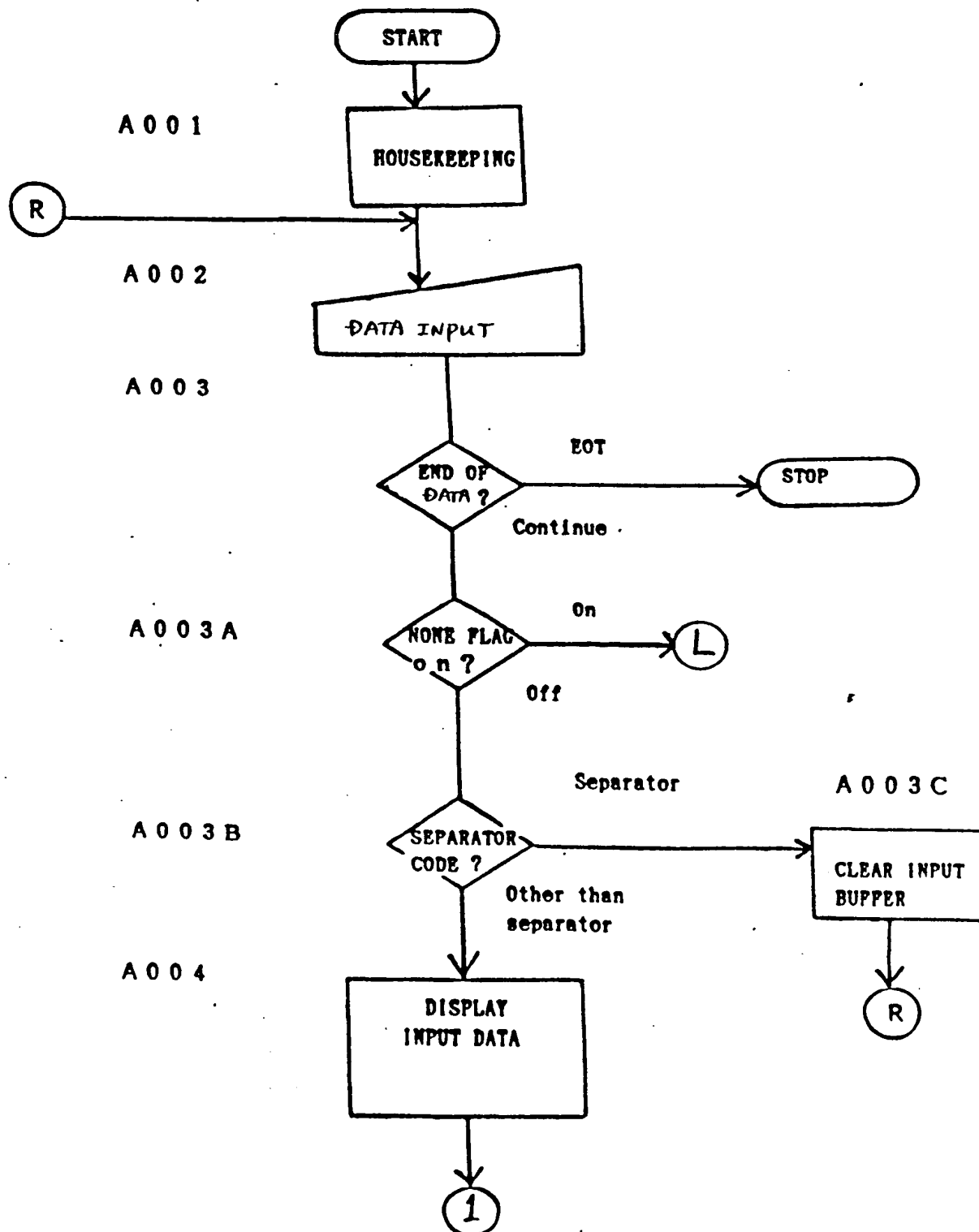
3: Control system
including the control of all
the systems, being adapted to
inputting and outputting the
text characters on the display,
edit characters in the text,
and making such conversion as
the input characters to an
appropriate word or a combination
of words, etc.

4: Memory system

5: Dictionary system

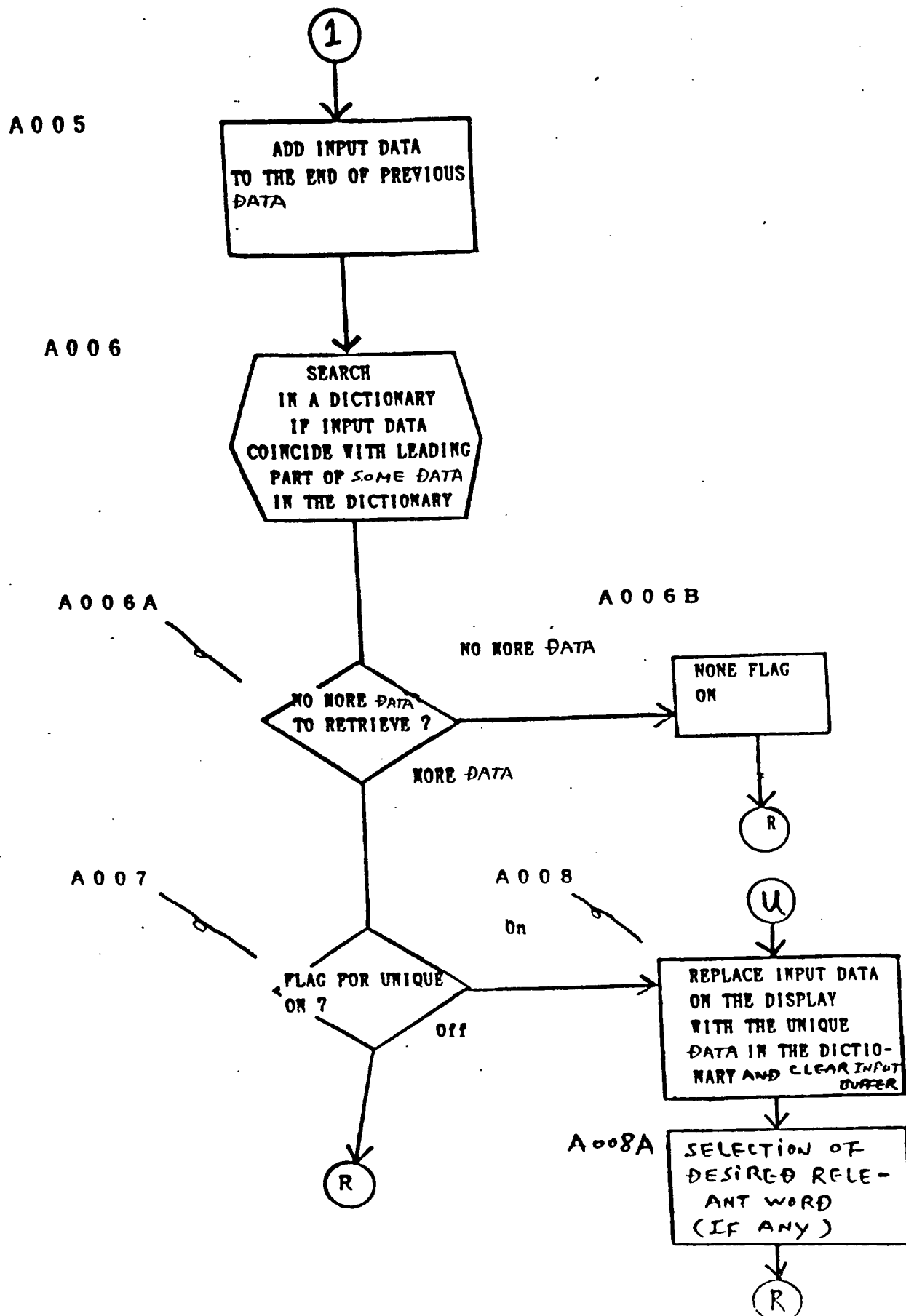
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Figure 2 FLOWCHART



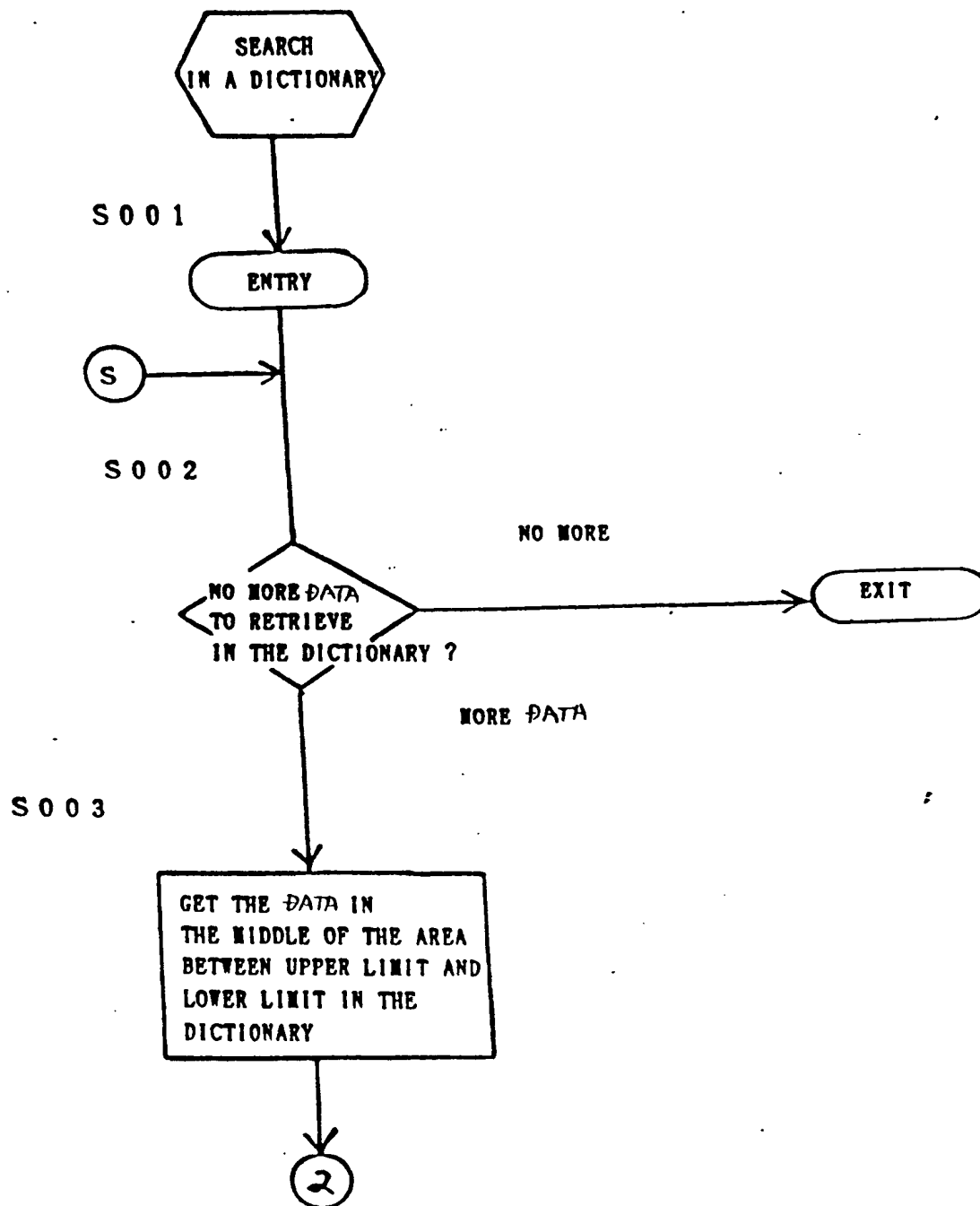
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Figure 3 FLOWCHART



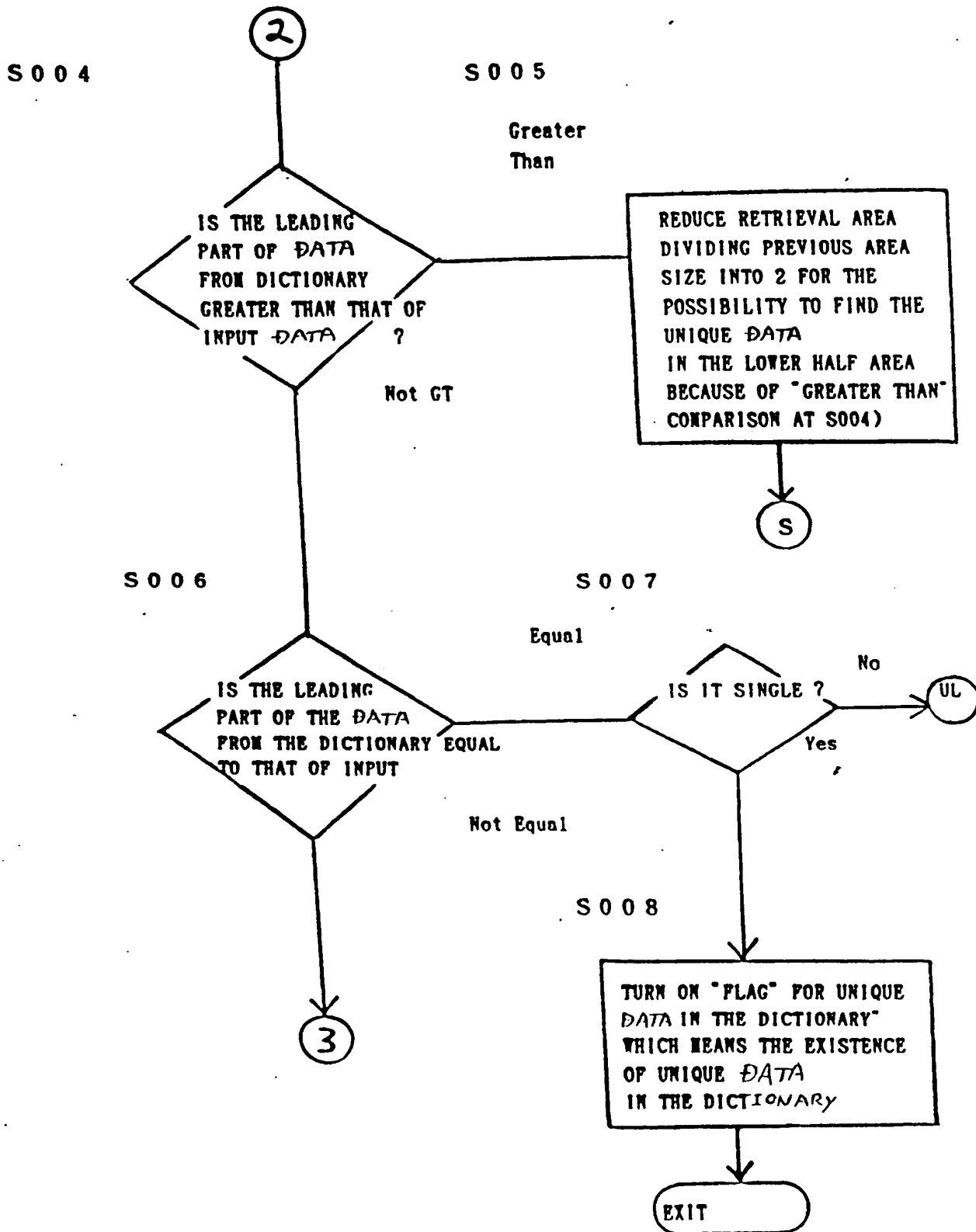
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Figure 4. FLOWCHART



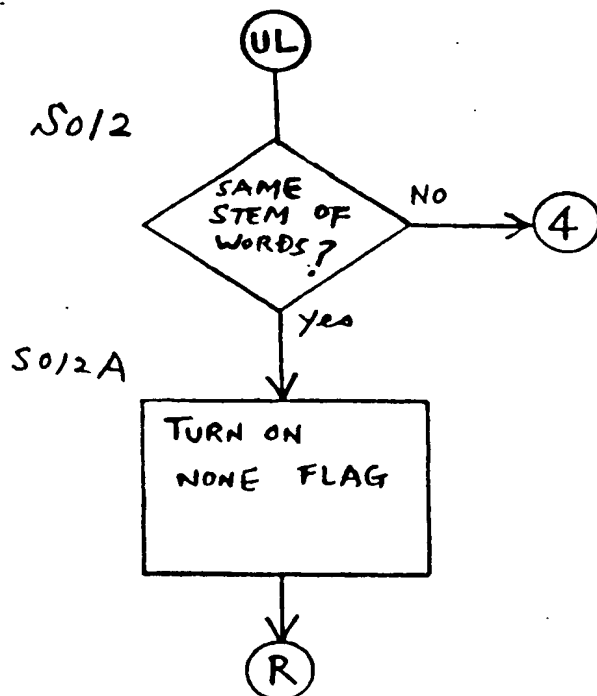
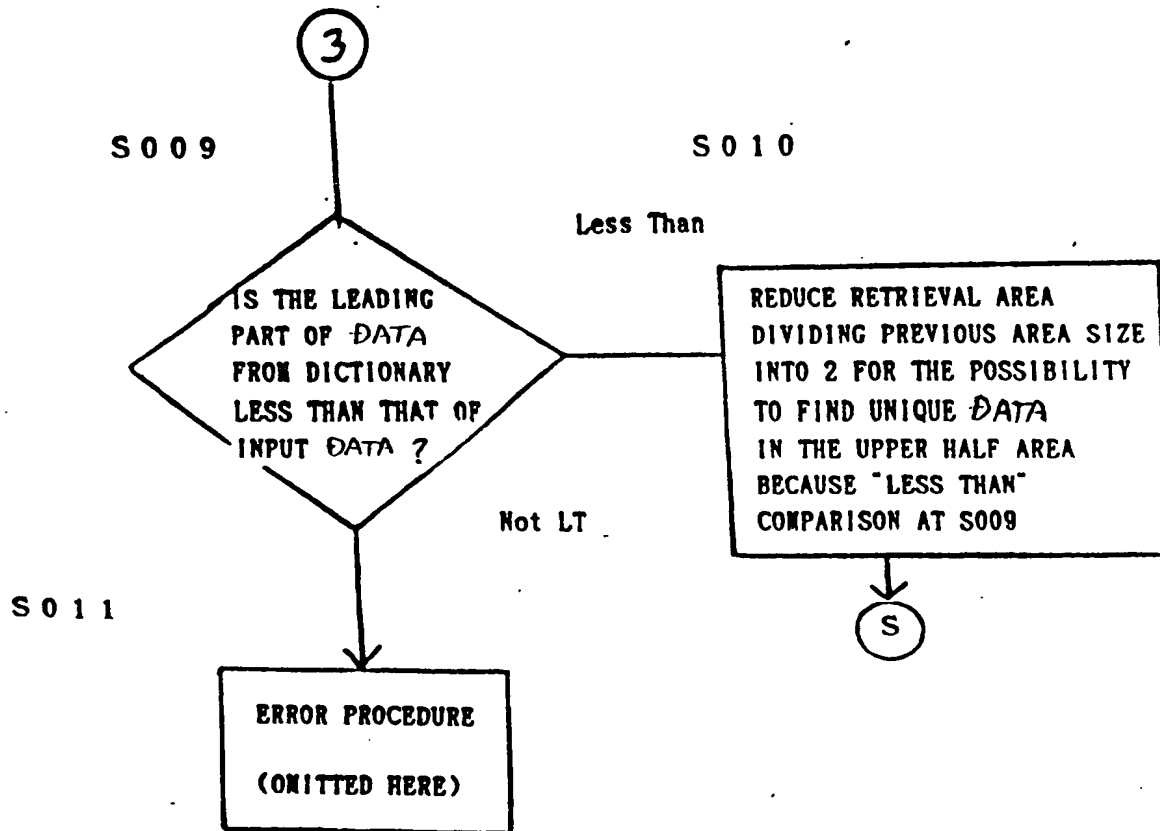
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Figure 5 FLOWCHART



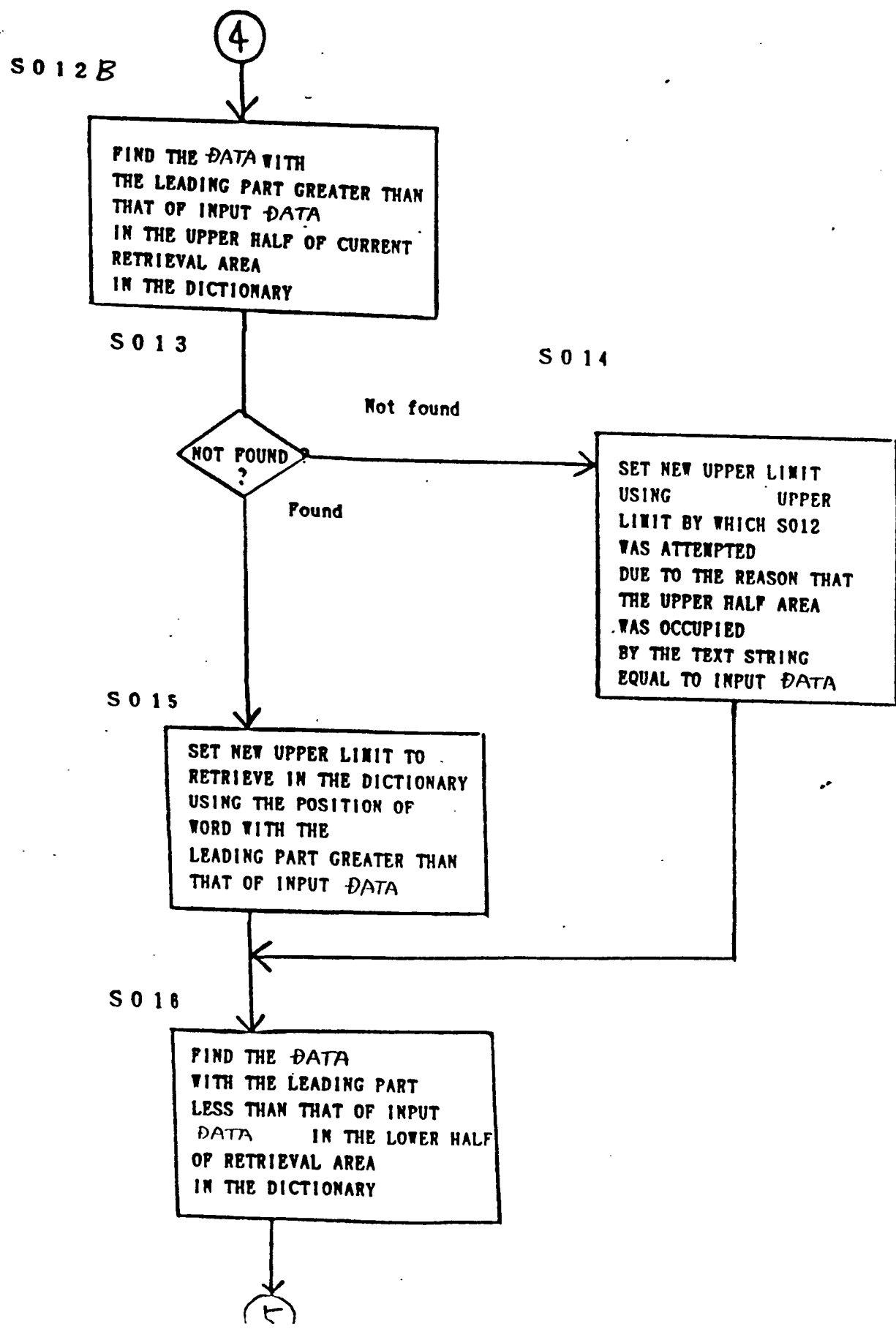
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Figure 6 FLOWCHART



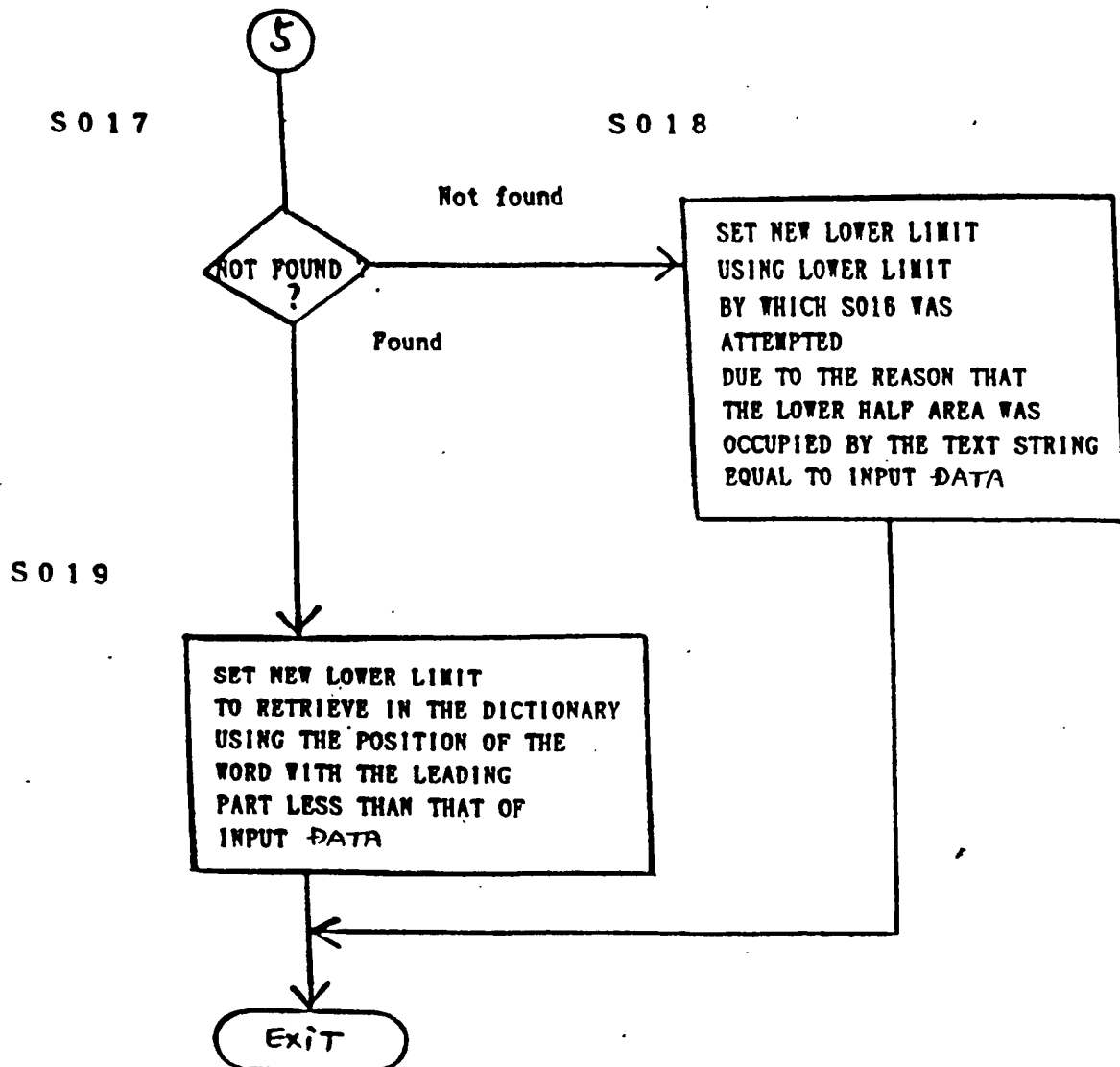
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Figure 7 FLOWCHART



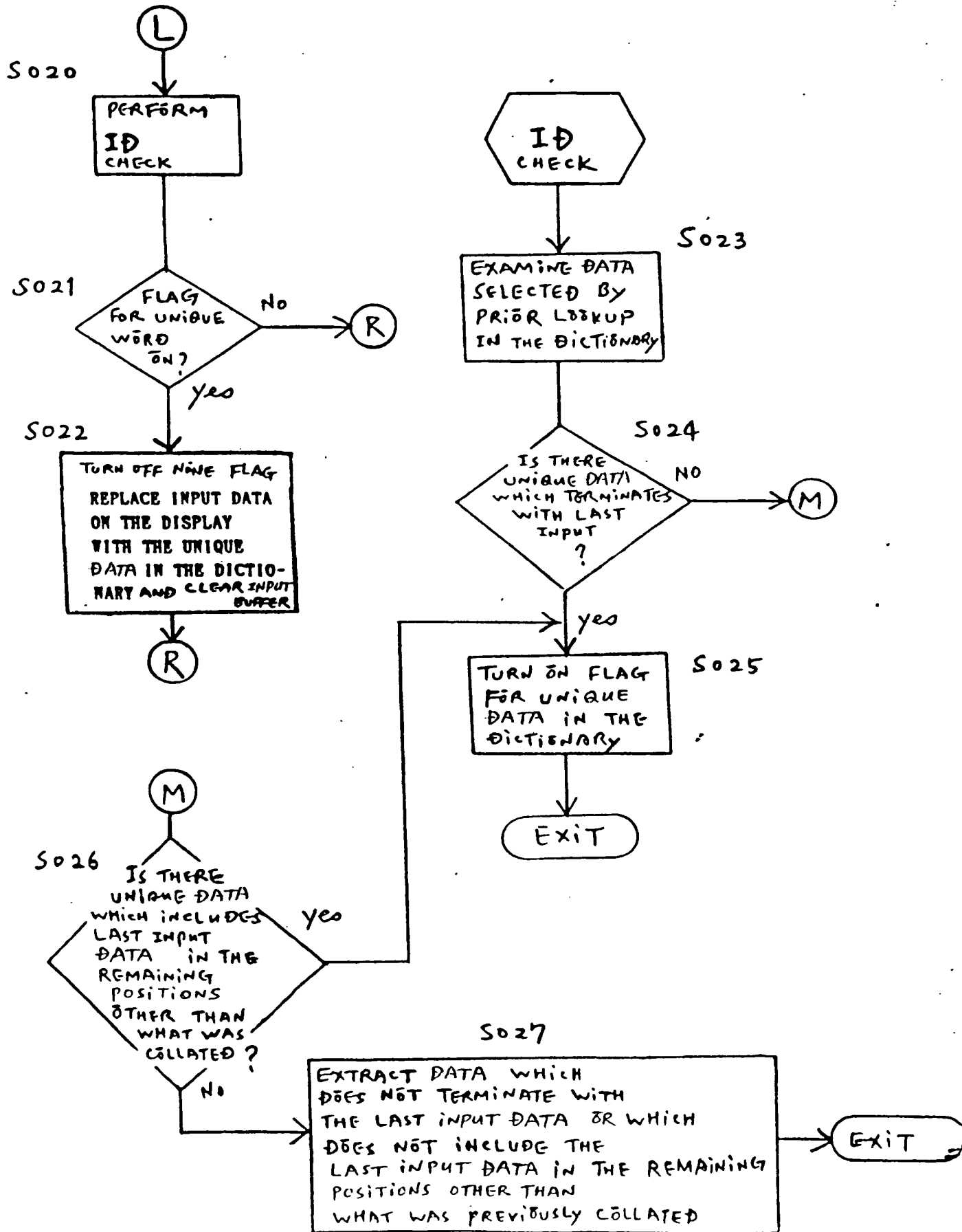
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Figure 8 FLOWCHART



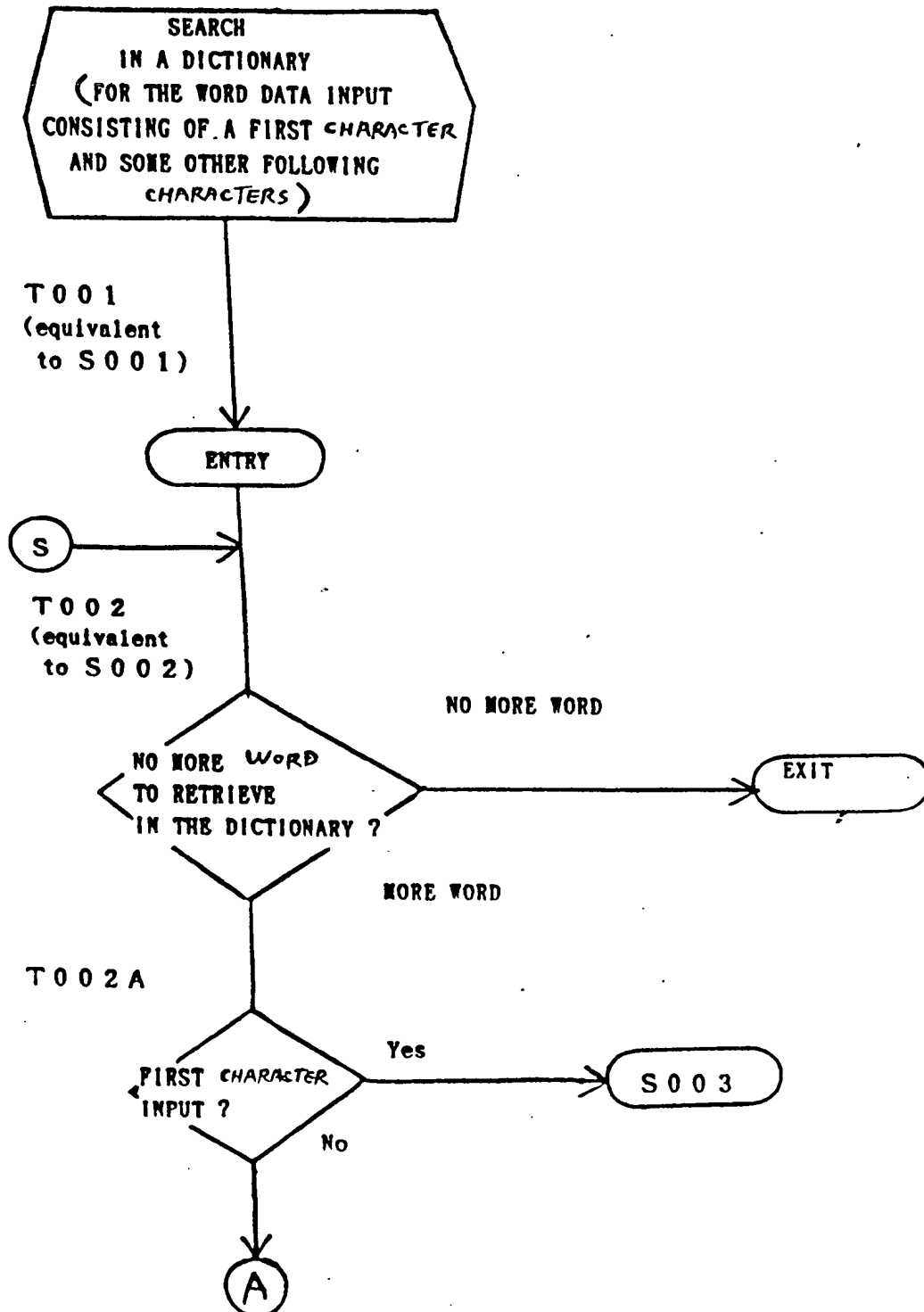
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Figure 9 FLOWCHART



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Figure 10 FLOWCHART



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Figure // FLOWCHART

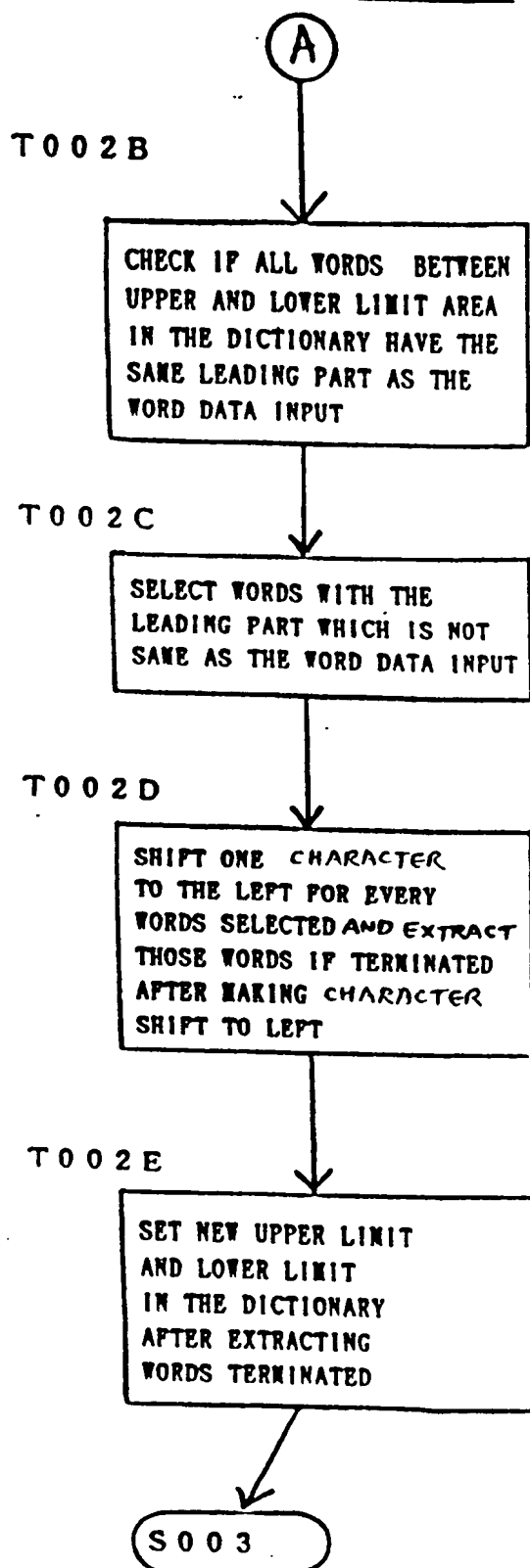


Figure 12

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1 WORD PATTERN ELEMENT DATA DICTIONARY - EXAMPLES

#	HANDWRITING CHARACTER PATTERN ELEMENT CODES	ORIGINAL WORD CHARACTERS
1	$\phi\phi \phi 1 \phi 1 1\phi \phi 2 \phi\phi 3\phi 11 11 11$ 	修
2	$\phi\phi 2\phi 12 \phi 2 \phi 1 2\phi 1\phi \phi 2 25 12 \phi 2 \phi 1 45 55$	録
3	$\phi 2 \phi 1 12 11 \phi 2$	正
4	$\phi 2 11 25 12 12 \phi\phi 3\phi$	更
5	$\phi 4 \phi 1 1\phi 2\phi 12 \phi 2 \phi 1 1\phi 2\phi$	除
6	$11 2\phi 1\phi \phi 1 24 12 12 11 \phi 5$	削
7	$14 2\phi 3\phi 1\phi 1\phi 12 11 25 12 2\phi 1\phi \phi 2$ 	登

2 HANDWRITING CHARACTER PATTERN ELEMENT CODES - EXAMPLES

	ϕ	1	2	3	4	5	6	---
ϕ								
1								
2								
3								
4	3			3	C	D		
5	J	J	L	L	>	<		
...								

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Figure 13 DICTIONARY

Line of text	Original word	Relevant words
<hr/>		
(
easi	easily	
east	east	
easy	easy	eastern. eastward
eat	eat	
eb	ebb	
ecc	eccentric	
eco	economic	
ede	eden	economical. economics. economy
edib	edible	
edif	edifice	
edit	edit	edition. editor. editorial
edu	educate	education. educational
effe	effect	effective
effi	efficiency	efficient
effo	effort	
egg	egg	
egy	egypt	egyptian
eig	eight	eighteen. eighth. eighty. either
elab	elaborate	
elap	elapse	
elas	elastic	
elb	elbow	
eld	elder	
el	el dorado	
elect	electric	electric. electrical. electricity. electron. electronic. electronics
electi	election	
eleg	elegance	
elem	element	elegant. elegy
elep	elephant	elemental. elementary
elev	elevate	elevator. eleven. eleventh
elf	elf	
eli	eliminate	
(

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Figure 14 DICTIONARY 11

<u>Original word</u>	<u>The number of character positions to be unique in the dictionary</u>
{	{
easily	4
east	4
eastern	5
eastward	5
easy	4
eat	3
ebb	2
eccentric - - - - - →	3 (ex.) e c c e n t r i c
echo	3
economic	8
economical	{
economy	
eden	
edible	
edifice	
edit	
edition	
editor	
editorial	
educate	
education	
educational	
effect	
effective	
efficiency	
efficient	
effort	
egg	
egypt	
egyptian	
eh	
eight	
eighteen	
eighth	
eighty	
either	
elaborate	
elapse	
}	}

This remainder is
 supplemented from
 the dictionary.
 ↓
 At this position,
 "eccentric" is unique
 in this dictionary.

TEXT INPUT SYSTEM

The present invention relates to a text input system to lower the burden of text input for an information processing and communication control system.

5 As one of the text input method, a conventional system utilizes an abbreviation or a shorthand words. For example, it has a dictionary with a plural number of words which are compared with the data input, and word data corresponding to the data input is fetched from the
10 dictionary and no more input is necessary.

 However, in the above-mentioned method, it is necessary to remember the abbreviation and activate the system function to find a desired word by depressing a corresponding key, and its efficiency depends on an
15 operator's capability, as the operator has to remember all the characters of the abbreviation or shorthand words in the dictionary which correspond to those of the data input for successful functioning to find a match.

 The conventional method has a common way to
20 accept a leading part of word data or a radical of Chinese character or Japanese kanji character from a keyboard or a handwriting input apparatus. After the operator depresses an enter key or a space key, the data input is compared with the contents of a dictionary to find the word which
25 equates the data input and display, if any. The operator may find the desired word on the display and select one of them by the depression of a specific function key.

 However, the method to press the enter key or space key as a separator after typing some characters to
30 find the desired word is not suitable for typing on the keyboard in a blind (eyes-free) manner. And it is also unlikely that the operator reiterates the steps to input a line of text, character by character, for the system to collate with the contents of dictionary and display words
35 which have the same leading part as the data input, until

some of them is selected by the operator. Its method heavily relies on the operator's ability and does not necessarily contribute to an increase in input efficiency.

5 In the case of handwriting input, there would be plenty of words in the dictionary with the same radical as those of Chinese characters or Japanese kanji characters which will cause a frequent change of a list of words for selection on the display after some data input and repeated steps to select the desired words among them.

10 Such action may actually decrease the efficiency of data input, eg. the system first displays the list of radicals and the operator selects the radical to which the system gets back to the operator with the relevant characters for the selection on the display by the operator.

15 The text input system of the invention, was intended to provide a way of data input from the keyboard or handwriting stroke input apparatus, giving an efficient and natural way of input for the operator without being conscious of it while it is in use and by the step
20 equivalent to what they have been doing up until now.

The text input method should not give an extra burden and an additional training to the operator, and should be able to increase an efficiency of the data input using a natural way of input, as well.

25 In comparison with the conventional method, the invention system collates a data input with the dictionary, character by character, at the time of each data input and replaces the data input on the display with the unique data from the dictionary after finding the
30 unique one which includes data input in a variety of forms, and requires no more input. This increases the efficiency of data input and lowers the typing burden on an operator as well as a variety of data input method mentioned below.

35 Additionally, this invention is a flexible and

effective way to further increase the efficiency of input, by decreasing the number of words in the dictionary containing the words only with the number of characters more than the specific number, in the dictionary, by way of storing relevant words with the data to collate with the data input, in the dictionary. It decreases the amount of data input and shortens the time required to reach the character position which makes the word unique in the dictionary for the purpose of supplementing the remaining part of word from the dictionary.

In the abbreviation input, the conventional method uses a dictionary consisting of an abbreviation and its original form of word, though the present invention is able to use a standard dictionary, as well as the abbreviation dictionary.

Systems according to the invention do not require a special abbreviation dictionary. It is able to utilize the standard dictionary and accept the abbreviation input which contains the first character and some other characters of the word data to input and compares those with the dictionary. Even in case of having the special abbreviation dictionary, the present invention does not require all the characters of the abbreviation to input. In this case, the operator does not have to remember the abbreviation and may input part of it, eg. the first character followed by some other characters of the abbreviation and which is unique in the dictionary.

A text input system of the present invention according to the Claim 1 has a feature to enter a line of text, character by character, collate the entered line of text with a dictionary storing a plurality of lines of text and original words, determine a unique line of text in the dictionary which includes the entered line of text, at the time of character input, without being actuated by

the depression of a special function key, and replaces the entered line of text with the unique line of text or original word in the dictionary.

5 A text input system of the present invention according to the Claim 2 has a feature to enter a line of text, character by character, collate the entered line of text with a dictionary, identify plural lines of text with the same stem of word which includes said entered line of text, and determine a unique line of text which has the
10 same last character as the last entered character, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of character input, and identify plural lines of text with the same stem of word which includes said
15 entered line of text, and determine said unique line of text which includes the same one as the last entered character in the remaining part other than that was successfully collated between said entered line of text and those in said dictionary, among said identified plural
20 lines of text, without being actuated by the depression of a special function key, at the time of character input.

A text input system of the present invention according to the Claim 3 has a feature to enter a line of text, character by character, collate the entered line of text with a dictionary, identify plural lines of text with
25 the same first part as said entered line of text, and determine a unique line of text which has the same last character as the last entered character, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of
30 character input, and identify plural lines of text with the same first part which includes said entered line of text, and determine said unique line of text which includes the same one as the last entered character in the
35 remaining part other than that was successfully collated

between said entered line of text and those in said dictionary, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of character input.

5 A text input method of the present invention according to the Claim 4 has a feature to enter a first character followed by some other following characters of a line of text to variably input, character by character, collate the entered line of text with a dictionary,
10 determine a unique line of text in the dictionary which includes the first character and some other following characters of line of text, at the time of character input, without being actuated by the depression of a special function key.

15 A text input system of the present invention according to the Claim 5 has a feature to enter a line of text, character by character, collate the entered line of text with a dictionary storing a plurality of lines of text and relevant words, identify a unique line of text
20 with plural number of relevant words, and select a unique word among said relevant words which includes the same one as the last entered character in the remaining part other than that was successfully collated between said entered line of text and those in said dictionary, without being
25 actuated by the depression of a special function key, at the time of following character input.

 A text input system of the present invention according to the Claim 6 has a feature to enter a line of text, character by character, collate the entered line of text with a dictionary storing a plurality of lines of
30 text, determine a unique line of text which includes said entered line of text, without being actuated by the depression of a special function key, at the time of following character input.

35 A text input system of the present invention

according to the Claim 7 has a feature to enter a line of text of handwriting strokes, stroke by stroke, collate the entered line of text with a dictionary storing a plurality of lines of text of handwriting strokes and original
5 words, determine a unique line of text in the dictionary which includes the entered line of text of handwriting strokes, at the time of stroke input, without being actuated by the depression of a special function key, and replace the entered line of text with the unique line of
10 text or original word in the dictionary.

A text input system of the present invention according to the Claim 8 has a feature to enter a line of text of handwriting strokes, stroke by stroke, collate the entered line of text of handwriting strokes with a
15 dictionary, identify plural lines of text with the same first part as said entered line of text, and determine a unique line of text which has the same last stroke as the last entered stroke, among said identified plural lines of text, without being actuated by the depression of a
20 special function key, at the time of character input, and identify plural lines of text with the same first part which includes said entered line of text, and determine said unique line of text which includes the same one as the last entered stroke in the remaining part other than
25 that was successfully collated between said entered line of text and those in said dictionary, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of stroke input.

A text input method of the present invention according to the Claim 9 has a feature to enter a first stroke followed by some other following strokes of a line of text to variably input, stroke by stroke, collate the entered line of text with a dictionary, determine a unique
35 line of text in the dictionary which includes the first

stroke and some other following strokes of line of text,
at the time of stroke input, without being actuated by the
depression of a special function key, and replace the
entered line of text with the unique line of text in the
5 dictionary.

Means for determining said unique line of text
may comprise means for determining a predetermined number
range of lines of text in said dictionary.

10 The means for storing may comprise means for
storing said line of text in said dictionary which is
organized in a random access manner.

Some examples for the number of character
positions in a word to be unique in the dictionary in
comparison with the total number of characters of the
15 word, are given in Table 2. The examples of a line of
text of characters or strokes are shown in Table 1.

Also, there is a possibility of increasing the
speed of finding the unique word in the dictionary, by
decreasing the number of short words. For example,
20 "abolish" can be identified at the 4th character position
(ie. abol), in the selective dictionary of following Table
2, though it needs 6 characters to be unique in the
standard dictionary.

25

30

35

Table 1

	Word pattern element codes for handwriting strokes	Original word	The number of position to be unique in the dictionary
5			
10	02 01 12 11 02	□ ³	2
	02 11 25 12 12 00 30	□X	2
	00 30 12	A	1
15	01 34	B	1
	12 01 11 11	E	1

* In this example, "□³" or "□X" can be unique at the second pattern element code position.

20

Table 2

	Standard Dictionary			Selective Dictionary	
	Word (or line of text)	The number of character position in a word to be unique in the dictionary	The total number of char. of the word	The number of character position in a word to be unique in the dictionary	
25					
30					
35	abandon	4	7	abandon	3
	abate	4	5		
	abbot	4	5		
	abdomen	3	7	abdomen	3
	abhor	3	5		
40	abide	4	5		

	ability	4	7	ability	3
	abject	3	6		
	able	4	4		
5	abnormal	3	8	abnormal	3
	aboard	4	6		
	abolish	6	7	abolish	4
	abolition	6	9		
	abominable	4	10		
10	abound	5	6		
	about	5	5	about	4
	above	4	5		
	abridge	4	7	abridge	3
	abroad	4	6		
15	abrupt	4	6		
	absence	6	7	absence	4
	absent	6	6		
	absinthe	4	8		
	absolute	6	8	absolute	5
20	absolve	6	7		
	absorb	5	6		
	absorbent	7	9	absorbent	5
	abstain	5	7	abstain	4
25					
	(Total)	127	184	41	79
	(127 / 184 = 0.69 : 31%			(41 / 79 = 0.52 :	
	difference			48% difference	
				(79 is the total	
30				number of char.)	

Embodiments of the invention will now be described with reference to the drawings in which:

Figure 1 is a block diagram of the invention system;

Figures 2 to 11 show the functional specification of the present invention; and

Figure 12 to Figure 14 show examples of the dictionary to be used by the invention system.

5 In the flowchart of Figure 2 to Figure 11, A001 is the first step to clear the contents of the counters, flags, and work area, at the beginning of the data input process.

Next A002 accepts a data input, character by character, or stroke by stroke, from a keyboard or handwriting input instruments.

10 A003 checks if the input data is an END code to show the end of transaction, and if yes, the step goes to the termination of process. Otherwise, the step proceeds to A003A.

15 A003A tests if the NONE flag is on which means that there is no data including the data input in the dictionary. If YES, the step goes to S020 in which the ID check steps are performed to find the unique one with the last data same as the last input data in the remaining positions other than that was already collated (in Figure 9), as the ID check steps are performed after the input of
20 last data and prior to its dictionary search, utilizing a flag of NONE flag which is set on at A006B in Figure 3. It means that the attempt to search at A006A in Figure 3 using the previous input has failed and the NONE flag was
25 set ON for the purpose to activate ID check steps to find the data for "leading data and some other data to be unique in the dictionary". If NONE flag is off, the step proceeds to next A003B.

30 A003B tests if the input data is a separator code. If it is not a separator code, the process proceeds to A004 in which input data is displayed at the end of data input on the display. If it is the separator code at the testing of A003B, the step goes to A003C in which the input buffer is cleared and the step goes back to A002 for
35 the next data input.

After displaying the input data at A004, the next A005 adds the data input to the end of previous data string in the input buffer memory. Then, the step goes to A006 that is the subprogram of dictionary search.

5 A006 performs a dictionary search to get the data which has the same leading part as the data input and which is unique in the dictionary, as one example in the case, because there are some other cases to find the data which is unique, despite the different form of data, eg.
10 the data input of the first data followed by some other data for the line of text data to represent the unique one in the dictionary and so on.

 Next A006A tests if the result of the dictionary search at A006 shows that there are data to retrieve in
15 this example. If there is no data, the step goes to A006B in which the NONE flag is turned ON and goes back to A002 for the next data input. In this example, the NONE flag is used for the purpose to do a sequence of "input of following data and ID check" to find the unique data with
20 the same last data as the last data input or with the same last data input in the remaining parts other than that was already collated. If the test result at A006A is not negative, which means that there are still data to retrieve, step A007 tests if the step of A006 found the
25 unique one in the dictionary by the "flag for the unique ON". If OFF, the step goes back to A002 for the next data input to continue the input and dictionary search.

 At A008 branching from A007, the system replaces input data on the display with the unique data from
30 dictionary, the contents of the input buffer is cleared for the next data input, and goes to next A008A.

 A008A is the selection step for the case having a plural number of relevant words in the dictionary after finding the unique data in the dictionary. One of the
35 relevant data is selected on the display in this case,

because the other selection steps are performed by ID check at S020 in Figure 9, testing the existence of data which is unique and terminates with the same one as the last data input or which is unique and includes the same one as the last data input in the remaining part that was already collated. Then the step goes back to A002 for the next data input.

S001 is an entry of the subprogram to search in the dictionary. S002 is to test if there are no more words to retrieve in the dictionary. If so, the process goes to the exit of this subprogram. If there are words to retrieve at the testing of S002, the process goes to S003.

S003 gets the data located in the middle of the area between an upper limit and a lower limit in the dictionary. In this case, the upper limit means the boundary with the text string which is getting larger, and the lower limit means the boundary which is getting smaller.

S004 compares the data input with the data from the dictionary, and tests if the leading part of word from the dictionary is greater or not.

If the greater flag is ON at S004, S005 divides the retrieval area size into 2 to use the lower half area for the next retrieval, as there is a possibility to find the unique word in the lower half area, because the dictionary data found at S003 was greater than the word input. Then, the step goes back to S002. If the greater than flag is OFF at S004, the step proceeds to S006.

At S006, it is tested if the leading part of word from the dictionary is equal to that of the data input. If equal, S007 is performed to test if it is single. In case of a single one, the next step S008 turns on the flag for the unique data in the dictionary and goes to exit. If there is a plural amount of data at S007, the

step goes to S012. If NOT EQUAL at S006, the step proceeds to S009.

At S009, testing is made as to whether the leading part of the word from the dictionary is less than
5 that of the data input.

If the less than flag is ON after testing at S009, S010 divides the retrieval area size into 2 to use the upper half area for the next retrieval, as there is a possibility to find the unique word in the upper half area
10 because the dictionary data found at S003 was less than that of data input. Then, the step goes to S002.

If the less than flag is OFF at S009, there is something wrong with the procedure in the process and the process goes to the error procedure of S011 which is not
15 described here, due to the matter which is not directly related to the invention.

Branching here from S007, S012 tries to find if the plural number of data have the same stem of word. If it is YES, the step goes to S012A in which the NONE flag
20 is turned ON and the step goes back to A002 for the next data input. Otherwise, the step goes to S012B.

S012B gets the data with the leading part greater than that of input data in the upper half of current retrieval area in the dictionary.

25 At the test of next S013 after performing the step of S012B, it is tested if the data was found, and goes to S015 if found. If the data was not found, the step goes to S014.

S015 sets a new upper limit to retrieve using
30 the positions of the data with the leading part of data greater than that of the data input, in the dictionary, and goes to next S016.

S014 sets a new upper limit to retrieve in the dictionary using the position of the upper limit by which
35 S012B was attempted, because the upper half area in this

case was occupied by the words with the leading part equal to that of data input as a result of the attempt at S012B. Then, the step goes to S016.

5 S016 tries to find the word with the leading part less than that of data input in the lower half area of the dictionary.

Next S017 tests if the data was found.

10 S018 takes place if not found at S017 and sets new lower limit using the position of the lower limit by which S016 was attempted, because the lower area was occupied by the words with the leading part equal to that of the data input as a result of the attempt at S016. Then, the step goes to the exit of this subprogram.

15 S019 arises if the data was found at S017 and sets new lower limit to retrieve using the positions of the data with the leading part less than that of the data input and jumps to the exit of this subprogram.

20 Branching from A003A when NONE flag is ON, S020 performs the steps named ID check in this case to start with S023 which is an entry of a subprogram.

25 S023 and followings check if there is the unique data which has the last data same as the last data input, or which includes the same one as the last data input in the remaining part other than that was already collated with the data input.

30 Next S021 checks the flag for the unique data, after coming back from ID check. If its flag is OFF, the step goes back to A002 for the next data input. If the flag is ON, the step proceeds to next S022 which turns the NONE flag OFF and supplements the remaining part of data input on the display, ie. the replacement of the data input with the unique data found. Then, the step goes back to A002 for the next data input.

35 S023 is the start of a subprogram which performs determination process of the unique data. S023 examines

data which were selected by the prior look-up in the dictionary.

5 S024 tests if there is the unique data which terminates with the same one as the last data input. If YES, the step goes to next S025 which turns the FLAG for the unique data ON and goes to exit of this subprogram. If NO at the test of S024, the step goes to S026.

10 At S026, it is tested if there is the unique data which includes the last data input in the remaining positions other than that was already collated with data input. If YES, the step goes to S025. If NO, the step proceeds to the next S027 in which the system extracts data which do not have the same one as the last data input or which do not include the same one as the last data
15 input in the remaining part other than that was already collated with the data input, for the next retrieval.

20 As a subset of the dictionary search for the data input consisting of a first character and some other characters, T001 which is equivalent to the aforementioned S001, is an entry of this subprogram.

25 T002, which is equivalent to the aforementioned S002, checks if there are still more words to retrieve in the dictionary. If there are no more words, the step goes to the exit. The process advances to the next T002A, if there are words to retrieve.

 T002A branches to the aforementioned S003 if the input is the first one of the data input, and goes to the next T002B if it was not the first one.

30 T002B is to check if all words between the upper and lower limits in the dictionary have the same leading part as that of the data input.

 T002C selects the words with the leading part which is not the same as that of the data input.

35 T002D shifts one character to the left for every word selected at T002C and extracts those words which

terminated after making a character shift.

T002E sets new upper and lower limits to retrieve in the dictionary after extracting words terminated at T002D. Then, the step goes to the
5 aforementioned S003.

Figure 12 is an example for the word pattern element data for handwriting characters.

In this example, let us assume that "□³" (representative of the word shown) is going to be input.
10 At the time of input of its first stroke of "-", #3 and #4 words exist in this dictionary. Next stroke of "|" selects #3 only which corresponds to the input of "-|" in this case, and "□³" is replaced with the data input on the display.

15 Figures 13 and 14 are examples of the dictionary containing a line of text, original word, and relevant words.

CLAIMS

1. A text input system comprising:

means for entering a line of text, character by character;

5 means for storing a plurality of lines of text, and original words in a dictionary;

means for determining a unique line of text in said dictionary which includes said entered line of text, without a further special key depression, at the time of character input;

10 means for replacing said entered line of text with said unique line of text or said original word which was determined by said means for determining said unique line of text, without the necessity of depressing a special function key.

15 2. A text input system as in Claim 1, wherein said system comprises:

means for identifying plural lines of text with the same stem of word which includes said entered line of text, and determining a unique line of text which has the same last character as the last entered character, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of character input;

25 means for identifying plural lines of text with the same stem of word which includes said entered line of text, and determining said unique line of text which includes the same one as the last entered character in the remaining part other than that was successfully collated between said entered line of text and those in said dictionary, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of character input; and

30 means for replacing said entered line of text with what was determined by said means for identifying and

determining, without the necessity of depressing a special function key.

3. A text input system as in Claim 2, wherein said system comprises:

5 means for identifying plural lines of text with the same first part which includes said entered line of text, and determining said unique line of text which has the same last character as the last entered character, among said identified plural lines of text, without being
10 actuated by the depression of a special function key; and identifying plural lines of text with the same first part which includes said entered line of text, and determining said unique line of text which includes the same one as the last entered character in the remaining
15 part other than that was successfully collated between said entered line of text and those in said dictionary, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of character input.

20 4. A text input system as in Claim 1, wherein said system comprises:

means for entering a line of text consisting of a first character followed by some other following characters, character by character;

25 means for determining a unique line of text in said dictionary which includes said entered line of text, at the time of character input, without a further special key depression.

30 5. A text input system as in Claim 1, wherein said system comprises:

means for storing a plurality of lines of text and relevant words for said line of text in a dictionary;

35 means for determining a unique line of text stored with a plural number of said relevant words for said line of text in said dictionary, and selecting a

unique word among said relevant words which includes said entered line of text in the part other than that was already collated with said entered line of text, at the time of the next following character input, without a
5 further special key depression;

means for replacing said entered line of text with what was determined and selected by said means for determining and selecting, without the necessity of depressing a special function key.

10 6. A text input system as in Claim 1, wherein said system comprises:

means for storing a plurality of lines of text, in a dictionary.

15 7. A text input system as claimed in Claim 1, wherein said system comprises:

means for entering a line of text of handwriting strokes, stroke by stroke;

means for storing a plurality of lines of text of handwriting strokes and original words in a dictionary;

20 means for determining a unique line of text of handwriting strokes in said dictionary which includes said entered line of text of handwriting strokes, at the time of entering the handwriting stroke, without a further special key depression;

25 means for replacing said entered line of text of handwriting strokes with said unique line of text or said original word which was determined by said means for determining, without the necessity of depressing a special function key.

30 8. A text input system as in Claim 7, wherein said system comprises:

means for identifying plural lines of text of handwriting strokes with the same first part which includes said entered line of text of handwriting strokes,
35 and determining said unique line of text of handwriting

strokes which has the same last stroke as the last entered stroke, among said identified plural lines of text of handwriting strokes, without being actuated by the depression of a special function key, at the time of entering strokes to follow;

5 means for identifying plural lines of text of handwriting strokes with the same first part which includes said entered line of text of handwriting strokes, and determining said unique line of text of handwriting strokes which includes the same one as the last entered stroke in the remaining part other than that was successfully collated between said entered line of text of handwriting strokes and those in said dictionary, among said identified plural lines of text of handwriting strokes, without being actuated by the depression of a special function key, at the time of entering stroke;

10 means for replacing said entered line of text of handwriting strokes with said unique line of text or said original word which was identified and determined by said means for identifying and determining, without the necessity of depressing a special function key.

15 9. A text input system as in Claim 7, wherein said system comprises:

20 means for entering a line of text consisting of a first stroke and some other following strokes of handwriting strokes, stroke by stroke;

25 means for determining a unique line of text of handwriting strokes in said dictionary which contains said entered first stroke and some other following strokes of line of text of handwriting strokes, at the time of entering the handwriting strokes, without a further special key depression.

30 10. A text input system as in Claim 1 or 7, wherein said means for determining said unique line of text comprises means for determining a predetermined number

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range of lines of text in said dictionary.

11. A text input system as in Claim 1 or 7, wherein said means for storing comprises means for storing said line of text in said dictionary which is organized in a random access manner.

12. A text input method comprising the steps of:
entering a line of text, character by character;
storing a plurality of lines of text, and
original words in a dictionary;
determining a unique line of text in said dictionary which includes said entered line of text, without a further special key depression, at the time of character input;

replacing said entered line of text with said line of text or said original word which was determined by said determining step, without the necessity of depressing a special function key.

13. A text input method as in Claim 12, wherein said method comprises the steps of:

identifying plural lines of text with the same stem of word which includes said entered line of text, and determining said unique line of text which has the same last character as the last entered character, among said identified plural lines of text, at the time of entering characters, without being actuated by the depression of a special function key;

identifying plural lines of text with the same stem of word which includes said entered line of text, and determining said unique line of text which includes the same one as the last entered character in the remaining part of said line of text other than that was successfully collated between said entered line of text and those in said dictionary, among said identified plural lines of text, at the time of entering characters, without being actuated by the depression of a special function key;

replacing said entered line of text with said line of text or said original word which was determined by said identifying and determining step, without the necessity of depressing a special function key.

5 14. A text input system as in Claim 13, wherein said method comprises the steps of:

identifying plural lines of text with the same first part which includes said entered line of text, and determining said unique line of text which has the same
10 last character as the last entered character, among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of entering characters to follow; and

identifying plural lines of text with the same first part which includes said entered line of text, and determining said unique line of text which includes the
15 same one as the last entered character in the remaining part other than that was successfully collated between said entered line of text and those in said dictionary,
20 among said identified plural lines of text, without being actuated by the depression of a special function key, at the time of character input.

15. A text input method as in Claim 12, wherein said method comprises the steps of:

25 entering a line of text consisting of a first character followed by some other following characters, character by character;

determining a unique line of text in said dictionary which contains said entered first character and
30 some other following characters of the entered line of text at the time of character input, without a further special key depression.

16. A text input method as in Claim 12, wherein said method comprises:

35 storing a plurality of lines of text and

relevant words for said line of text in a dictionary;

determining a unique line of text stored with plural number of said relevant words for said line of text in said dictionary, and selecting a unique word among said relevant words which includes said entered line of text in the part other than that was already collated with said entered line of text, at the time of next following character input, without a further special key depression;

replacing said entered line of text with what was determined and selected by said determining and selecting steps, without the necessity of depressing a special function key.

17. A text input method as in Claim 12, wherein said method comprises storing a plurality of lines of text, in a dictionary.

18. A text input method as claimed in Claim 12, comprising the steps of:

entering a line of text of handwriting strokes; storing a plurality of lines of text of handwriting strokes and original words, in a dictionary; determining a unique line of text of handwriting strokes in said dictionary which includes said entered line of text of handwriting strokes, at the time of entering the handwriting stroke, without a further special key depression;

replacing said entered line of text of handwriting strokes with said unique line of text or said original word what was determined by said determining step, without the necessity of depressing a special function key.

19. A text input method as in Claim 18, wherein said method comprises:

identifying plural lines of text of handwriting strokes with the same first part which includes said entered line of text of handwriting strokes, and

determining a unique line of text of handwriting strokes which has the same last stroke as the last entered stroke, among said identified plural lines of text of handwriting strokes, without being actuated by the depression of a
5 special function key, at the time of entering strokes to follow, and identifying plural lines of text of handwriting strokes with the same first part which includes said entered line of text of handwriting strokes, and determining a unique line of text of handwriting
10 strokes which includes the same one as the last entered stroke in the remaining part other than that was successfully collated between said entered line of text of handwriting strokes and those in said dictionary, among said identified plural lines of text of handwriting
15 strokes, without being actuated by the depression of a special function key, at the time of entering the handwriting stroke;

replacing said entered line of text of handwriting strokes with said unique line of text or said
20 original word which was determined by said identifying and determining step, without the necessity of depressing a special function key.

20. A text input method as in Claim 18, wherein said method comprises the steps of:

25 entering a line of text consisting of a first stroke and some other following strokes of handwriting strokes, stroke by stroke;

determining a unique line of text of handwriting strokes in said dictionary which contains said entered
30 first stroke and some other following strokes of line of text of handwriting strokes, at the time of entering the handwriting stroke, without a further special key depression.

21. A text input method as in Claim 12 or 18,
35 wherein said determining step comprises determining a

predetermined number range of lines of text in said dictionary.

22. A text input method as in Claim 12 or 18,
wherein said storing step comprises storing said lines of
5 text in said dictionary which is organized in a random
access manner.

23. A text input system substantially as
hereinbefore described with reference to, and as
illustrated by, the accompanying drawings.

10 24. A text input method substantially as
hereinbefore described with reference to the accompanying
drawings.